

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
3 March 2005 (03.03.2005)

PCT

(10) International Publication Number
WO 2005/018720 A1

(51) International Patent Classification⁷: **A61M 5/30**

(21) International Application Number:
PCT/HU2004/000083

(22) International Filing Date: 11 August 2004 (11.08.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
P0302704 21 August 2003 (21.08.2003) HU

(71) Applicant and

(72) Inventor: **LINDMAYER, S., István** [HU/HU]; Homokhegy u. 12, H-7228 Döbröcköz (HU).

(74) Agent: **POLGÁR, Iván**; DeveloPat Patent & Trademark Agency, P.O. Box 21, H-1400 Budapest (HU).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

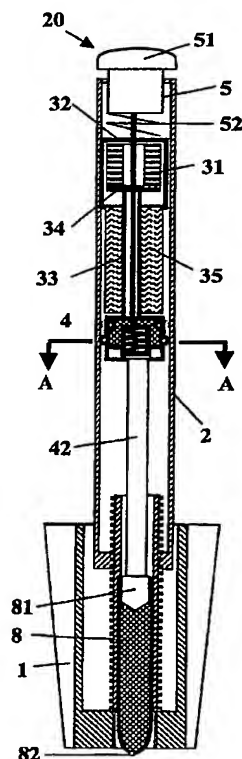
(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

[Continued on next page]

(54) Title: **NEEDLELESS INJECTION DEVICE AND CARTRIDGES**



(57) Abstract: A needleless injection device (20) with a lower part (1) receiving the agent cartridge (8) and an upper part (2) providing the energy needed for injection; the upper part contains energy store units capable of elastic form-change, while the lower part is attached to the upper part revolving manner, as known in itself, in a way that rotating it in relation to the upper part, it does constrained movement in the direction of the device's longitudinal axis, approaching the upper part, and results the tension state of the energy storage structural elements; furthermore, the device has a lock (4) maintaining the tension of the energy storage units (3) and component to release the lock. Among the energy storage structural parts there is at least one start unit (31), capable of storing min. 60 %, in this case 80-90 % of the total discharge energy (pressure), with the reversible elastic distortion at max. 25 %, practically 15-20 % of the internal length of the agent cartridge (8); wherein the device is provided with separate structural components for stretching the start unit and limit its relaxation.

WO 2005/018720 A1

BEST AVAILABLE COPY

BEST AVAILABLE COPY

WO 2005/018720 A1



Published:

- with international search report
- with amended claims

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

BEST AVAILABLE COPY